

Remarks

Claims 1-5, 7, 8 and 10-23 are pending.

Claims 1, 16 and 19 have been amended to more clearly define the invention. Basis for the amendments can be found in figures 11-14 and the associated sections of the specification.

In section 2 of the office action the Examiner rejects claim 1 under 35 USC §102(e) as being anticipated by Hagerman (US 6,697,643). Reconsideration is requested.

Hagerman describes a multi-beam antenna configuration for a base station (Hagerman, abstract). Hagerman does not describe "a multiple-input multiple-output (MIMO) wireless communication system" (this application, claim 1). The term "MIMO" is well known in the art and is described in the specification on page 1 lines 12-23 and shown in figure 1: In a MIMO system there are "a plurality of antennas at the transmitter and one or more antennas at the receiver. The antennas are employed in a multi-path rich environment such that due to the presence of various scattering objects (buildings, cars, hills, etc.) in the environment, each signal experiences multi-path propagation" thus providing multiple independent transmission channels between the transmitter and the receiver. Instead Hagerman describes a multi-beam system where on each beam orthogonal polarizations are used for the uplink and the downlink (Hagerman, figure 5) to a remote receiver.

Furthermore, as Hagerman only describes a base station he does not disclose "a dual polarized antenna array located at a transmitter" and "a plurality of receive antenna elements located at a receiver" (this application, claim 1).

Additionally, Hagerman does not disclose that "the first and second beams provide two independent MIMO channels between the transmitter and the receiver" (this application, claim 1). The Examiner notes that Hagerman does disclose a first

directional beam having a first polarization, for example beam 1 in figure 5 of Hagerman, and a second directional beam having a second polarization, for example beam 2 in figure 5 of Hagerman. However, these cannot provide two independent MIMO channels between a transmitter and a receiver because the two beams are pointing in different directions (as shown clearly in Hagerman, figure 5) and cannot therefore be used to communicate with the same destination receiver.

Consequently the present invention as defined by the amended claim 1 is clearly distinct from the teachings of Hagerman and it is respectfully submitted that the rejection cannot now be sustained.

The Examiner also cites Smith (US 6,211,841), however as this reference was commonly owned with the present invention at the time the invention was made, this prior art cannot be cited under section 103.

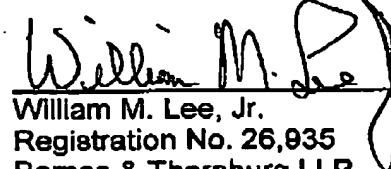
The Examiner also rejects independent claims 16 and 19. The above arguments in relation to claim 1 are also applicable to these independent claims and the Applicants respectfully submit that the rejection of these claims cannot also be sustained.

Detailed arguments are not presented in respect of the dependent claims, however the arguments of the Examiner should not be taken to be accepted.

In view of the fact that all of the Examiner's comments have been addressed, further and favorable reconsideration is respectfully requested.

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Respectfully submitted,



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